

- ▶ -40 to +85°C Temp Range
- ▶ Industry Std. Footprint
- ▶ Pb Free/RoHS Compliant

HC-49USX-DN QUARTZ CRYSTAL

The HC-49USX-DN is the industrial temperature range version of our standard HC-49USX crystal.

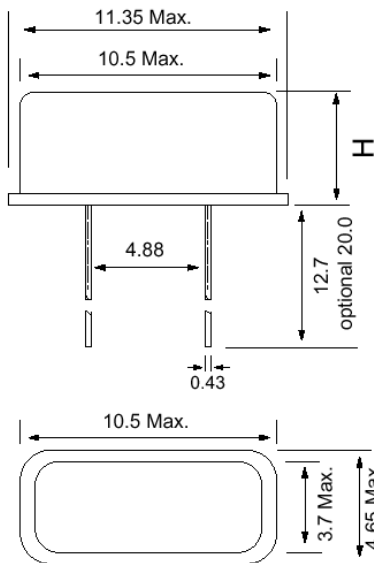
OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	HC-49USX-DN			UNITS
		MIN	TYP	MAX	
Frequency Range	f_0	3.57		70.000	MHz
Frequency Tolerance	at +25°C			± 30	ppm
Frequency Stability	-40 to +85°C			± 100	ppm
Shunt Capacitance	C_0			7	pF
Load Capacitance (CL)	Specify in P/N	10	20	Series	pF
Drive Level				500	µW
Operating Temperature		-40		+85	°C
Storage Temperature		-55		+125	°C
Aging (Per Year)	@ +25°C ±3°C			±5	ppm

EQUIVALENT SERIES RESISTANCE/MODE OF OSCILLATION

FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω	FREQUENCY RANGE (MHz)	MODE OF OSC	MAX ESR Ω
3.57 ~ 3.999	Fundamental	200	9.000 ~ 12.999	Fundamental	60
4.000 ~ 4.999	Fundamental	150	13.000 ~ 19.999	Fundamental	40
5.000 ~ 5.999	Fundamental	120	20.000 ~ 30.000	Fundamental	30
6.000 ~ 6.999	Fundamental	100	27.000 ~ 70.000	3rd Overtone	100
7.000 ~ 8.999	Fundamental	80			

PACKAGE DIMENSIONS (mm)



Height "H" MAX	
-4X	3.5 mm
-4LX	2.5 mm

Figure 1) Side and Top views

PART NUMBERING GUIDE: Example ECS-200-20-4XDN

ECS - Frequency Abbreviation - Load Capacitance - Package Stability Temperature

200 = 20.000 MHz
See P/N Guide

20 = 20 pF
S=Series

4X =
HC-49USX

D= ± 100 ppm

N= -40 ~ +85°C